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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,363	10/25/2000	Swarn S. Kalsi	05770-146001	4609

7590

12/20/2001

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EXAMINER
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MULLINS, BURTON S

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 12/20/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/696,363

Applicant(s)

KALSI

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 25, 26 and 31 is/are allowed.
- 6) ☒ Claim(s) 1-3, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 4-24, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

  
BURTON S. MULLINS  
PRIMARY EXAMINER

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fritz et al. (US 4,204,134) in view of Lloyd (US 5,066,638). Fritz teaches a coolant loop system for a superconducting rotor including: a superconducting field winding 7 and support (not numbered, see Fig.1); and a thermal reserve comprising damper 13 arranged about the winding and support. The damper 13 is coupled thermally to the field winding via a helium coolant system with tubes 6/12, evaporator 9 and mixing chamber 4. The coolant system maintains the temperature of the field winding at super-cooled temperatures of about 4.5 degrees K (c.3, lines 61-65). The coolant system also maintains the temperature of the damper at about 5-7 degrees K. Thus, the temperature differential between the field winding and the damper is not greater than 10 degrees K.

Fritz does not teach high-temperature superconductors, per se.

Lloyd teaches a high-temperature superconducting rotor. The benefits of high-temperature superconductors include improved efficiency through reduced winding losses and eddy current losses (c.1, lines 9-23).

It would have been obvious to one having ordinary skill in the art to provide a high-temperature superconductor winding per Lloyd for the superconducting winding of Fritz since the high temperature superconductor would have been desirable to reduce winding and eddy current losses and improve efficiency.

Regarding claims 2-3 and 28, the helium in the damper of Fritz is thermally conductive and electrically non-conductive.

*Allowable Subject Matter*

3. Claims 25-26 are allowed. The prior art, in particular Lloyd and Fritz, do not teach that the support is electrically isolated from the field winding and further do not teach an AC flux shield concentrically arranged about the field winding.

Claim 31 is allowed. The prior art does not teach a thermal reserve including ATTA which is thermally conductive and electrically nonconductive.

Claims 4-24 and 29-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 4-8, the prior art does not teach a thermal reserve comprising ceramic material, alumina, ATTA, Beryllium, electrically conductive material.

Regarding claim 12, the prior art does not teach or suggest banding about the thermal reserve.

Regarding claims 18 and 19, the prior art does not teach an outer layer of thermally non-conductive material arranged concentrically about the thermal reserve.

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Regarding claim 30, the prior art, in particular Lloyd and Fritz, do not teach that the thermal reserve suppresses eddy currents.

*Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ramirez Nestor can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.



Burton S. Mullins  
Primary Examiner  
Art Unit 2834

December 14, 2001